

IDEM

Nonrule Policy Document

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Title: Methyl-Tertiary Butyl Ether (MTBE) Remediation

Identification Number:

Date Originally Adopted:

Dates Revised: None

Other Policies Repealed or Amended: None

Brief Description of the Subject Matter: This document addresses Remediation and Closure Levels for Methyl-Tertiary Butyl Ether (MTBE), a common additive to gasoline.

Citations Affected: IC 13-23, IC 13-24-1, 328 IAC, 329 IAC 9

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Background

Methyl-Tertiary Butyl Ether (MTBE) is a common additive to gasoline, particularly in areas where smog and ozone are health concerns. It is an octane enhancing replacement for lead and used as an oxygenate to lower motor vehicle emissions by reducing the need for benzene, a known carcinogen and ozone precursor. MTBE concentrations in enhanced or re-engineered gasoline, generally ranges from 3 to 15 percent by volume. Due to cross mixing of products in storage, distribution and transportation, MTBE can be found in virtually all petroleum products. Releases of gasoline and other petroleum products are common, mainly through leaking underground storage tank releases and spills.

MTBE is considered by the U.S. Environmental Protection Agency (EPA) to be a potential human carcinogen. The EPA is evaluating carcinogenic information on this additive and will be performing additional research on the risk to humans. CERCLA lists MTBE as a hazardous substance. Since MTBE is more soluble than other petroleum hydrocarbons, MTBE is usually out in front or downgradient of the main body of a groundwater plume of gasoline. Therefore areas with drinking water wells present are more susceptible to MTBE impacts than from the other gasoline constituents. While the

EPA considers establishing a Maximum Contaminant Level (MCL), they have issued a drinking water advisory of 20-40 parts per billion (ppb) for MTBE intake. This level is below a taste/odor threshold for a majority of the population. This drinking water advisory concentration will likely protect consumers from potential health effects.

Policy Statement

The Indiana Department of Environmental Management has established risk based site cleanup/closure levels for the gasoline additive MTBE. The following levels will apply to sites per their land use determination of Residential or Industrial.

	<u>Soil</u>	<u>Groundwater</u>
Residential	0.35 ppm	45 ppb
Industrial	5.6 ppm	720 ppb

The use of a risk based approach for the cleanup of MTBE provides environmental and human health benefits for the citizens of Indiana. This policy protects the drinking waters of the state by establishing soil levels that will not allow MTBE to have an adverse effect on groundwater while setting a drinking water level which protects against adverse taste and odor effects. This policy meets the regulatory mandate that IDEM use a risk based approach to cleanup. This is not a significant departure from the way the Leaking Underground Storage Tank Program and the Excess Liability Fund (ELF) Program currently deal with MTBE issues. The cost of delineating MTBE is an eligible reimbursable expense under the ELF Program. This policy will only affect sites that have a release of gasoline with MTBE present.

Implementation

With IDEM's RISC (Risk Integrated System of Closure) Program in place all sites with gasoline releases must delineate for the constituent MTBE. Delineation must be to Residential levels both on and off site. In a situation where surrounding properties are a mixture of Residential and Industrial the most protective numbers will apply (Residential) unless the MTBE is confined to the Industrial property where the release occurred and it can be shown that the plume is stable and/or shrinking then Industrial levels will be applicable.

For sites using the Underground Storage Tank Guidance Manual (October 1994) criteria to close a site instead of the RISC Technical Resource Guidance Document and RISC User's Guide (February 15, 2001), the Residential soil and groundwater numbers will apply. The UST Guidance Manual does not allow for differences between residential and industrial land uses.

For sites where a Corrective Action Plan has already been approved, the responsible party will not be required to go back and delineate MTBE unless there is potential impact to a receptor (Drinking water well – private or public and/or vapors in

structures). Sites that have been issued a No Further Action (NFA) letter for closure will not be reopened unless MTBE contamination is discovered at a receptor (Drinking water well – private or public and/or vapors in structures) and this site is the probable cause of that contamination. An exposure issue must be confirmed prior to IDEM requiring the responsible party to provide further delineation for closed sites.

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